

Serial No.: 10/803,765
Docket No.: 26223-10

Art Unit: 2813
Examiner: Thanhha Pham

LISTING OF CLAIMS

1. (Currently Amended) A method of electrolessly depositing a metal on at least a part of the surface of a silicon wafer substrate, comprising:

(1) providing nuclei comprising metal on the surface of the silicon wafer substrate by:

(a) contacting the silicon wafer substrate with a solution comprising non-precious metal ions so as to obtain a wafer substrate covered with non-precious metal ions; and thereafter

(b) exposing the wafer substrate obtained in step (a) to a reducing solution comprising a reducing agent for reducing the non-precious metal ions that cover said substrate to a lower oxidation state;

(2) contacting the silicon wafer substrate with an electroless metal plating solution; wherein the silicon wafer substrate is heated to an elevated temperature prior to during the electroless process.

2. (Cancelled)

3. (Currently Amended) The method according to claim 1, wherein at least one of steps ~~(a)~~ and ~~(b)~~ is carried out by puddle processing.

4. (Currently Amended) The method according to claim 2 ~~3~~, wherein at least one of steps ~~(a)~~, ~~(b)~~ and ~~(c)~~ is carried out by puddle processing.

5. (Original) The method according to claim 1, wherein said reducing agent used in step (b) comprises a borane reducing agent.

6. (Original) The method according to claim 1, wherein said reducing solution used in step (b) comprises at least one metal ion of group Ib of the periodic table.

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7. (Currently Amended) The method according to claim 2 3, wherein said deposited metal is copper.

8. (Original) The method according to claim 1, wherein the wafer substrate is scanned with a laser following step (b).

9. (Currently Amended) The method according to claim 2 3 further comprising during or after step (b), selectively scanning the wafer substrate with laser radiation in a predetermined manner.

10-21. (Cancelled)

22. (New) A method according to claim 3, wherein the puddle is formed on the surface of the silicon wafer substrate by containing the puddle with a wall around the periphery of the wafer.

23. (New) A method according to claim 1, wherein the heating is performed on a localized basis using a laser.

24. (New) A method according to claim 1, wherein the heating causes decomposition of the electroless metal plating solution.

25. (New) A method according to claim 23, wherein the heating causes decomposition of the electroless metal plating solution.

26. (New) A method according to claim 1, wherein only a selected portion of the silicon wafer substrate is (a) contacted with the solution comprising non-precious metal ions, (b) exposed to a reducing solution, (c) contacted with an electroless metal plating solution and (d) heated to an elevated temperature.

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27. (New) A method of electrolessly depositing a metal on at least apart of the surface of a silicon wafer substrate, comprising:

- (a) contacting the silicon wafer substrate with an electroless metal plating solution;
- (b) selectively scanning the substrate, while in contact with the electroless metal plating solution, with a laser;

such that decomposition of the electroless metal plating solution is caused by the laser.

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